AMENDMENTS TO THE CLAIMS

Please amend the claims according to the following claim listing.

1. – 48. (canceled)

49. (Currently Amended) One or more populations of gold-containing scattered light-detectable particles, wherein the coefficient of variation in size within said one or more populations is less than 5%, said particles comprising a surface coat of gold, silver or silver alloy, and said particles having a diameter of 1 to 500 nm inclusive, ~~wherein the color of light scattered by at least 90% of said particles of each said population upon illumination of each said population on a surface at a particle density of less than 0.1 particles per μm^2 with white light is indistinguishable to the human eye when viewed with less than 500 times magnification and without electronic amplification,~~ and wherein said particles further comprise at least one additional material on their surfaces.

50. (Previously presented) The populations of claim 49, wherein said at least one additional material does not interact with light in the visible region of the spectrum.

51. (Previously presented) The populations of claim 50, wherein for one or more of said populations said at least one additional material comprises a protein, a nucleic acid, a peptide or a carbohydrate.

52. (Previously presented) The populations of claim 50, wherein for one or more of said populations said at least one additional material comprises a polymer.

53-54. (Canceled)

55. (Previously presented) The populations of claim 49, wherein said particles are spherical, oval or ellipsoidal.

56-59. (Canceled)

60. (Canceled)

61. (Canceled)

62. (Canceled)

63. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a metal, a metal compound, a metal oxide, a semiconductor or a superconductor.

64-65. (Canceled)

66. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a metal-like material.

67. (Canceled)

68. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a non-metal-like material.

69-70. Canceled)

71. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a magnetic or ferroelectric material.

72. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a mixture of metal-like materials and a magnetic or ferroelectric material.

73. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and a magnetic or ferroelectric material.

74-75. (Canceled)

76. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

77-79. (Canceled)

80. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and are of a size between 5 and 50 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

81-83. (Canceled)

84. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and are of a size between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

85-87. (Canceled)

88. (Canceled)

89-165. (Canceled)

166. (Previously presented) The populations of claim 49, wherein for one or ore of said populations at least one additional material comprises a binding agent capable of binding specifically to a predetermined analyte.

167. (Previously presented) The populations of claim 166, wherein there is a detectable difference in the color of the scattered light scattered by two or more populations, and wherein said binding agent of each said two or more populations is different and is capable of binding different predetermined analytes.

168. (Previously presented) The populations of claim 49, wherein for one or more of said populations said binding agent comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, flourescein or a pharmaceutical agent.

169. (Previously presented) The populations of claim 49, wherein for one or more of said populations said at least one additional material comprises a plurality of base molecules.

170. (Previously presented) The populations of claim 49, wherein for one or more of said populations said at least one additional material comprises a plurality of different base molecules.

171. (Previously presented) The populations of claim 168 or 169, wherein for one or more of said populations said base molecules comprise a gelatin, a polyethylene glycol, a carbohydrate, a polyamino acid or a protein.

172. (Previously presented) The populations of claim 168, wherein for one or more of said populations at least one additional material further comprises a binding agent that is bound to said base molecules, and wherein said binding agent is capable of binding specifically to a predetermined analyte.

173. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size between 10 and 300 nm.

174. (Currently Amended) The populations of claim [[62]] 49, wherein for one or more of said populations said surface coat is 0.5, 0.8, 1,3,4,5,9,19,39,49, or 74 nm thick.

175. (Currently Amended) The populations of claim [[61]] 49, wherein for one or more of said populations said surface coat is 0.5, 1.5, 2,4,5,6,10,12 or 20 nm thick.

176. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 60 to 120 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, flourescein or a pharmaceutical agent.

177. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 80 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

178. (Previously presented) The populations of claim 49, where for one or more of said populations said particles are of a size of 40 nm to 100 nm, and wherein said additional material comprises biotin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

179. (Currently Amended) The populations of claim [[62]] 49, wherein for one or more of said populations said particles are of a size of 60 nm, and wherein said additional material comprises biotin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

180. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 80 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies, or antifluorescein antibodies.

181. (Currently Amended) The populations of claim [[62]] 49, wherein for one or more of said populations said particles are of a size of 60 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies or antifluorescein antibodies.

182-216. (Canceled)